CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRS/CEMENT/2014-15

Date: 09.04.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.
REFERENCE	:	AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	a) Initial Setting Time	IS-4031 (Part -5)	155 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	490 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	27.00 %	-

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
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Job No.: CTCE/BBMP/W.No.06/KRS/SAND/2014-15 : 09.04.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.

Reference : AEE/BTP/(WO)/547/2013-14 Dated: 07.04.2014

Date of Testing : 09.04.2014

Material : Sand Total Wt. of Aggregates 2000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	88	4.4	4.4	95.6	90-100
2.36	256	12.8	17.2	82.8	75-100
1.18	331	16.6	33.8	66.3	55-90
600 Micron	518	25.9	59.7	40.4	35-59
300 Micron	423	21.2	80.8	19.2	8-30
150 Micron	285	14.3	95.1	4.9	

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRS/AGG/2014-15 : 09.04.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.

Reference : AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014

Date of Testing : 09.04.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25500**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0.0	100	100
40	1015	4.0	4.0	96.02	95-100
20	16485	64.6	68.6	31.37	30-70
10	5190	20.4	89.0	11.02	10-35
4.75	2535	9.9	98.9	1.08	0-5

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Job No.: CTCE/BBMP/W.No.06/KRS/STEEL/2014-15 09.04.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.
Name of the work	:	Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.
Reference	:	AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014
Date of Test	:	09.04.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	547	13.10	O.K	O.K

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Job No.: CTCE/BBMP/W.No.06/KRS/STEEL/2014-15 09.04.2014

TEST REPORT ON REINFORCEMENT STEEL

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.

Name of the work : Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.

Reference : AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014

Date of Test : 09.04.2014

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	12	0.89	515	551	13.35	O.K	O.K

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Job No.: CTCE/BBMP/W.No.06/KRS/STEEL/2014-15 09.04.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.
Name of the work	:	Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.
Reference	:	AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014
Date of Test	:	09.04.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	16	1.58	520	555	13.50	O.K	O.K

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Job No.: CTCE/BBMP/W.No.06/KRS/CUBE/2014-15

17.05.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.
Name of the work	: Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.
Reference	: AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014
Sample ID	: Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.04.2014	17.05.2014	8.398	512.4	22.77
2	19.04.2014	17.05.2014	8.245	499.5	22.20
3	19.04.2014	17.05.2014	8.166	479.3	21.30

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.06/KRS/WMM/Gradation/2014-15

24.04.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.

Reference : AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014

Date of Testing : 24.04.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 25200

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	995	995	3.9	96.1	95-100
22.4	6845	7840	31.1	68.9	60-80
11.2	5850	13690	54.3	45.7	40-60
4.75	3935	17625	69.9	30.1	25-40
2.36	2890	20515	81.4	18.6	15-30
0.600	2010	22525	89.4	10.6	8-22
0.075	2390	24915	98.9	1.1	0-8

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Job No.: CTCE/BBMP/W.No.06/KRS/SDBC/Bitumen/2014-15 08.05.2014

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AASHTO T 164 & AASHTO T 30

CLIENT	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K.R. Santhosh Kumar,** Contractor, Bangalore.
NAME OF THE WORK	Improvements to roads and drains at Maruthinagara Main Road left side in Ward No.06 in Dasarahalli village limits, BBMP, Bangalore.
REFERENCE	AEE/BTP/(WO)/547/2014-15 Dated: 07.04.2014
SAMPLE I/D	Roads in Maruthinagara Main Road in Ward No.06
DATE OF TESTING	08.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474
3. Weight of Asphalt and Mineral matter Extracted,	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	26.00
7. Bitumen content in %	5.00	5.20
8. Average	**5.10**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	29.36	5.87	5.87	94.13	90-100
4.75	243.6	48.72	54.59	45.41	35-51
2.36	92.58	18.52	73.11	26.89	24-39
1.18	51.78	10.36	83.46	16.54	15-30
0.3	33.47	6.69	90.16	9.84	9-19
0.075	23.56	4.71	94.87	5.13	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	28.45	5.69	5.69	94.31	90-100
4.75	242.5	48.50	54.19	45.81	35-51
2.36	91.23	18.25	72.44	27.56	24-39
1.18	52.45	10.49	82.93	17.07	15-30
0.3	34.28	6.86	89.78	10.22	9-19
0.075	23.85	4.77	94.55	5.45	3-8

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